Launch Mission Execution Forecast

Mission: SpaceX Falcon 9 Dragon Crew Demo-2
Issued: 29 May 2020 / 0900L (1300Z)
Valid: 30 May 2020 / 1521L (1921Z)

Forecast Discussion: The subtropical ridge has built into the area today, which should mean lower chances for the inland convection reaching the Space Coast. Elsewhere, a major pattern shift is underway as the pesky upper-level trough mired in the eastern half of the US has begun weakening and moving east. This will push the associated boundary into the Appalachians and the weather ahead of it into the Atlantic Coast States. This boundary will continue to move east on Saturday, bringing the pre-frontal weather into the Atlantic and nudging subtropical ridge axis south of the Spaceport. This will impede the inland progression of the east coast sea breeze and, coupled with the western steering flow, push inland convection towards the Spaceport. In addition, tropical development possible over the next few days will stay well east over the open Atlantic. The primary weather concerns for Saturday are flight through precipitation, as well as the anvil and cumulus cloud rules associated with the afternoon convection.

On Sunday, the late season frontal boundary will provide some added cloudiness over the Spaceport, depending on the exact location of the front. Although it seems a welcome drying trend over Florida will soon be upon us, it's not clear if the timing will be soon enough for Sunday's attempt. The primary weather concerns for launch are flight through precipitation, the thick cloud layer rule, and the cumulus cloud rule, all associated with the frontal boundary.

30 May

Probability of Violating Weather Constraints

50%

Primary Concerns: Flight Through Precipitation, Anvil Cloud Rule, Cumulus Cloud Rule

Weather Conditions		Clouds				Additional Risk Criteria	
		Type	Coverage	Base (ft)	Tops (ft)		
Weather/Visibility:	Isold Showers / 7 mi.					**Upper-Level Wind Shear**:	Low
Temp/Humidity:	84°F / 65%	Cumulus	Scattered	3,000	12,000	**Booster Recovery Weather**:	Low
Liftoff Winds (200'):	150° 10 - 15 mph	Cirrostratus	Broken	25,000	28,000	**Solar Activity**:	Low

31 May

Probability of Violating Weather Constraints

40%

Primary Concerns: Flight Through Precipitation, Thick Cloud Layer Rule, Cumulus Cloud Rule

Weather Conditions		Clouds				Additional Risk Criteria	
		Type	Coverage	Base (ft)	Tops (ft)		
Weather/Visibility:	Isold Showers / 7 mi.					**Upper-Level Wind Shear**:	Moderate
Temp/Humidity:	85°F / 64%	Cumulus	Scattered	3,000	10,000	**Booster Recovery Weather**:	Low
Liftoff Winds (200'):	300° 7 - 12 mph	Altostratus	Broken	15,000	18,000	**Solar Activity**:	Low

***Note**: The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.*

Back-up day launch forecasts will be provided when the back-up date is within four days of this forecast.

Next Forecast Will Be Issued	30 May